

Lake Trafford Watershed Project

Agricultural and Biological Engineering
UF/IFAS SWFREC

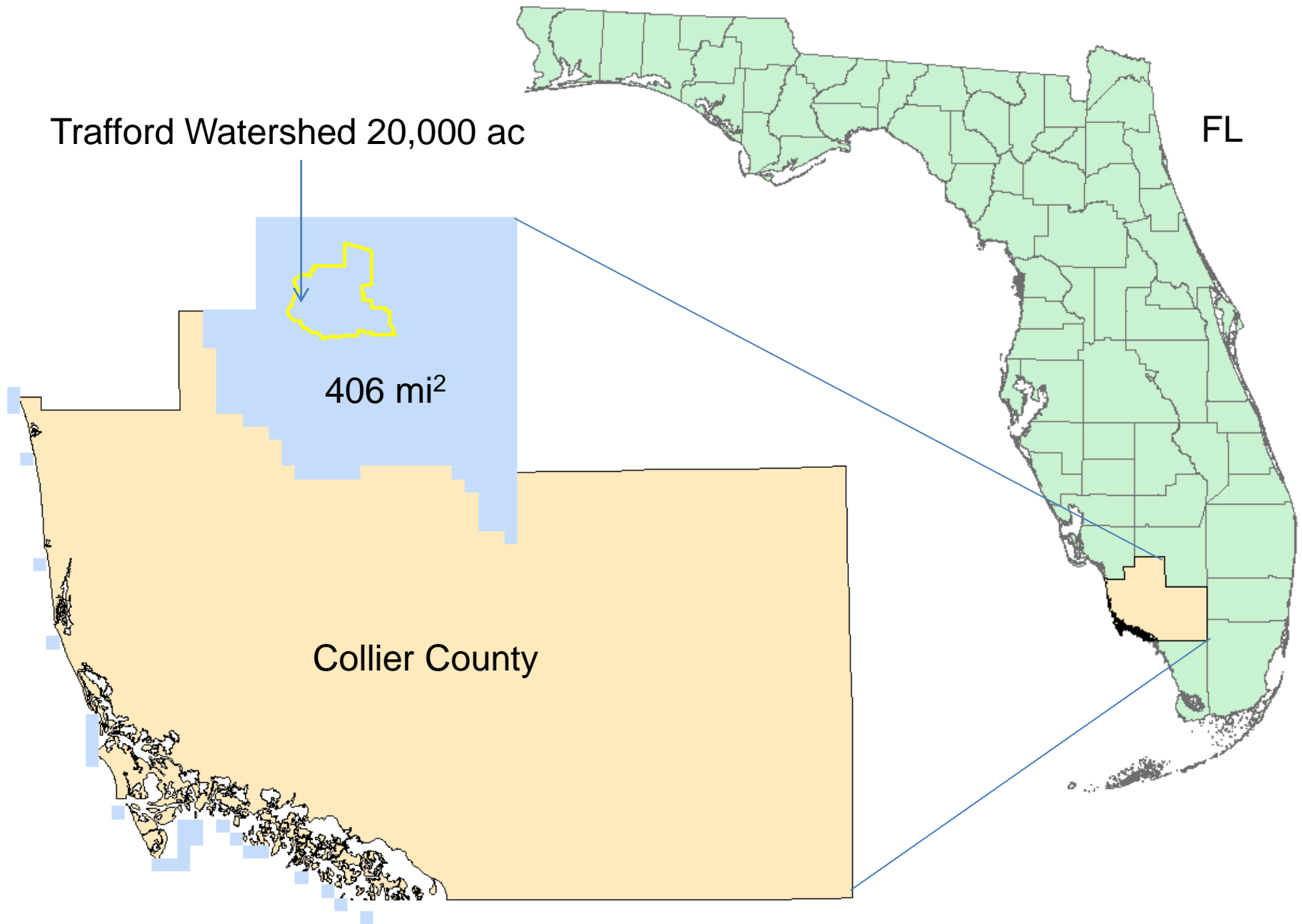
Aug. 21, 2015



UF Lake Trafford Watershed Delineation Project

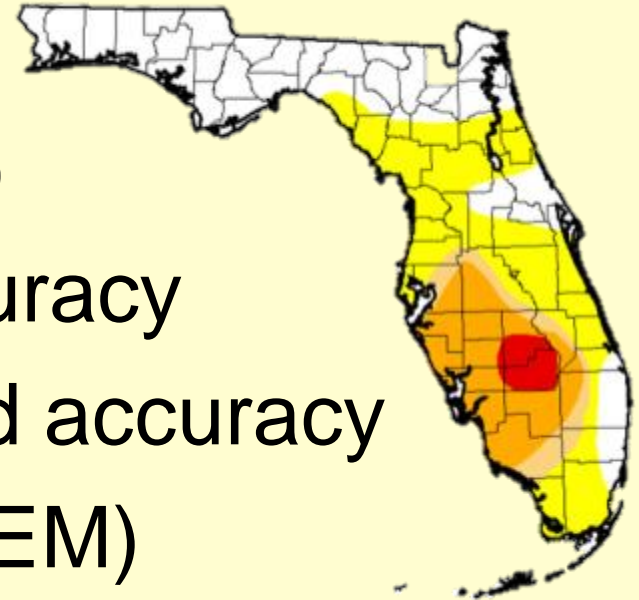
Objectives:

- 1) Delineate the Lake Trafford Watershed boundary using LiDAR data in conjunction with hydrologic data
- 2) Combine results from obj. 1 with topographic survey-based ground truthing to identify surface drainage networks and finalize the boundary.



LiDAR Data and DEM

- Collier County
- March 2-8, 2008 (Drought)
- 0.33 – 0.82 ft. vertical accuracy
- Need to verify cover-based accuracy
- Digital Elevation Model (DEM)
 - 5 x 5 ft. resolution
 - NAVD 88

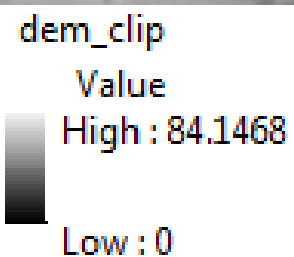




SR 82

SR 29

CREW
Marsh



Lake
Trafford

Immokalee

Spray
Field

SR 29

Existing Boundary



Potential Boundary Errors

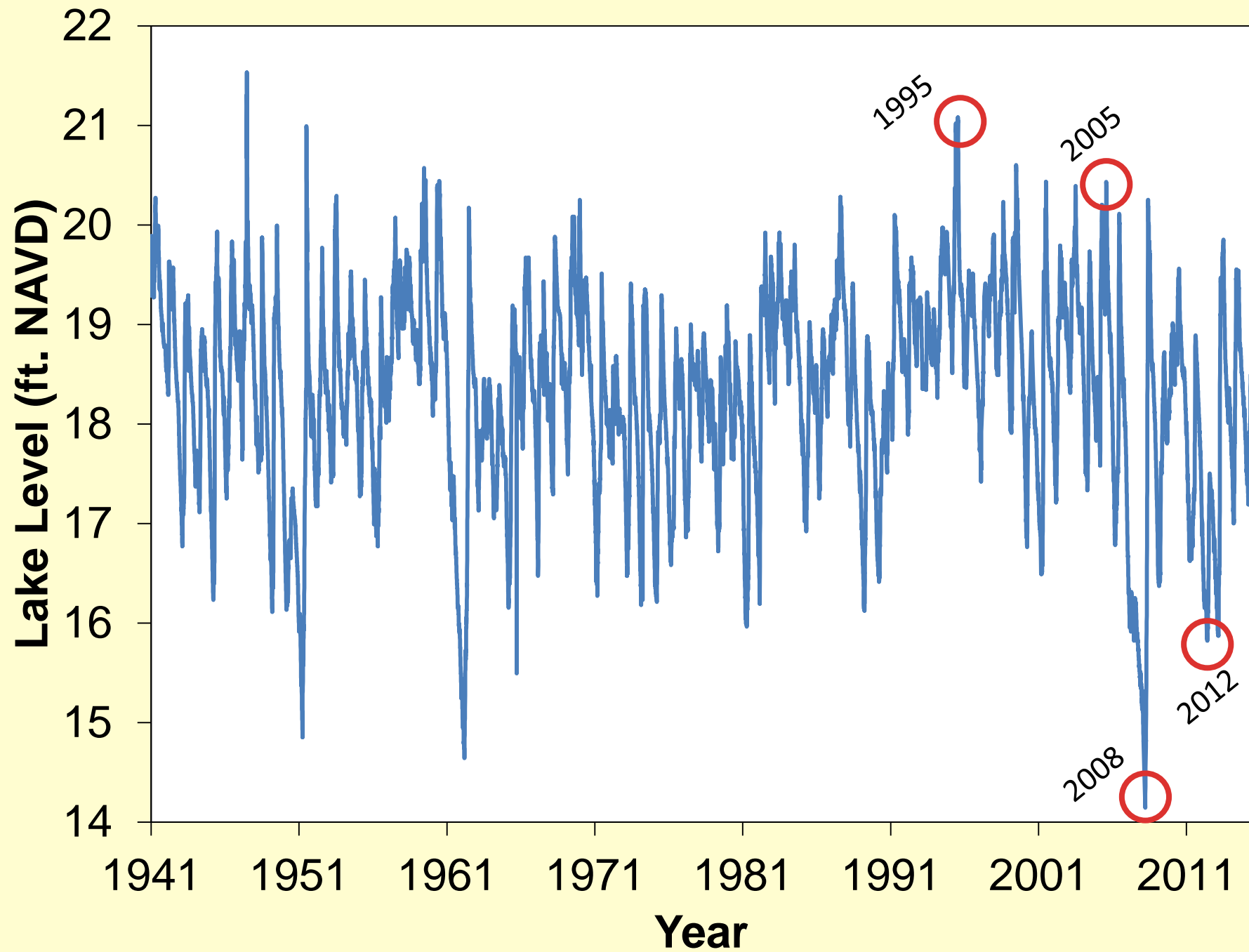
Hydrologic Connectivity

**CREW
Marsh**

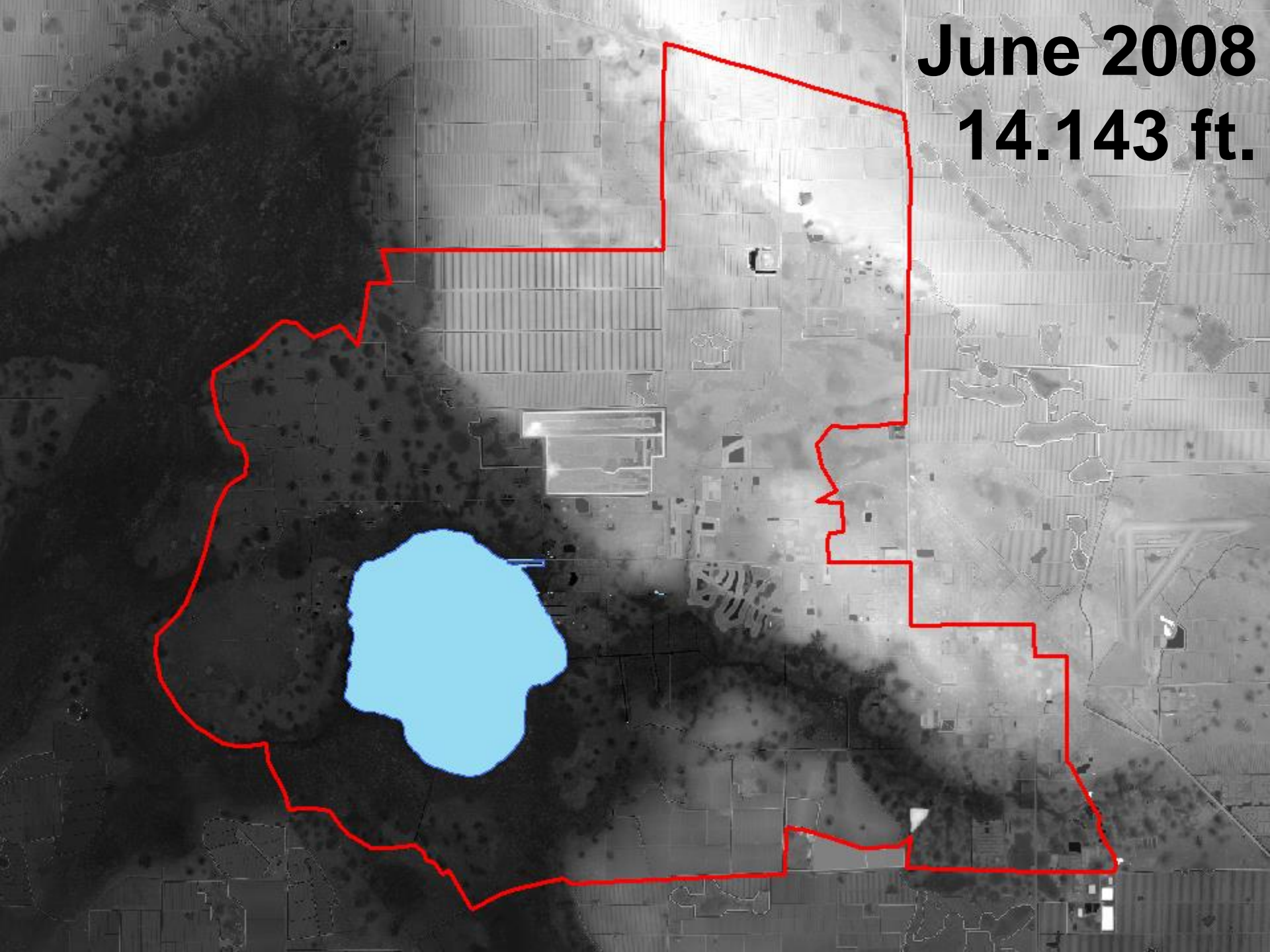
**Lake
Trafford**

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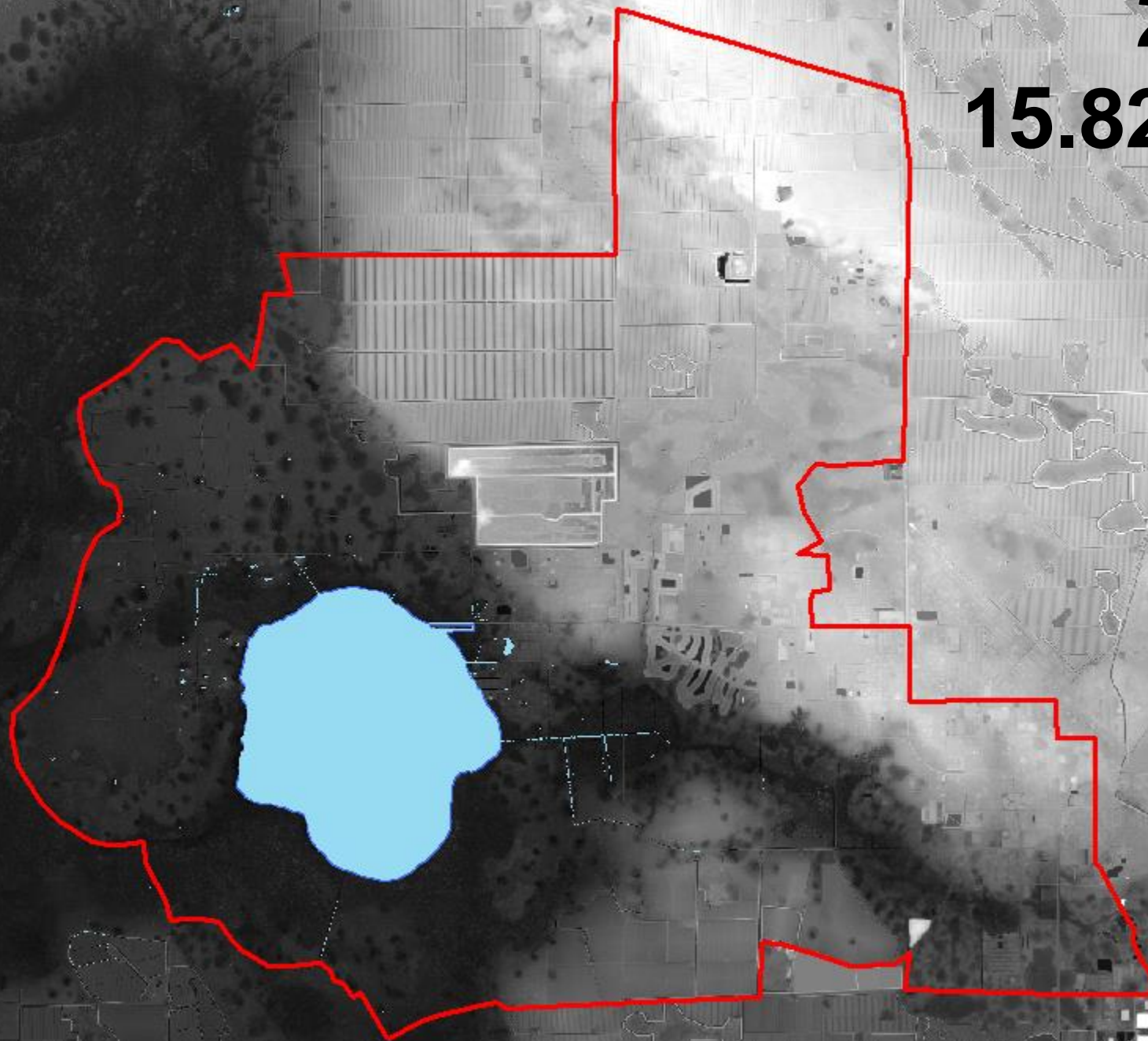
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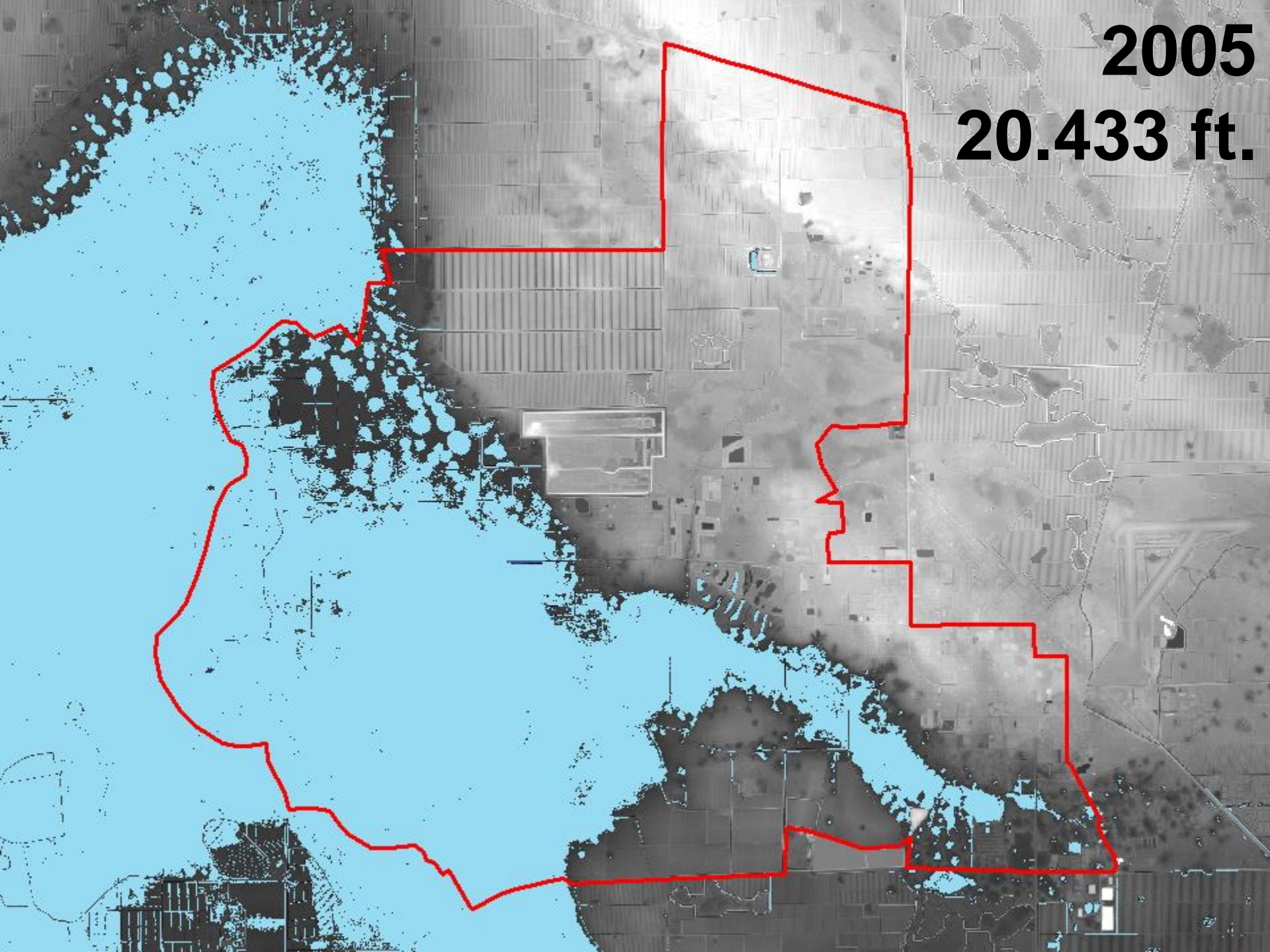
June 2008
14.143 ft.



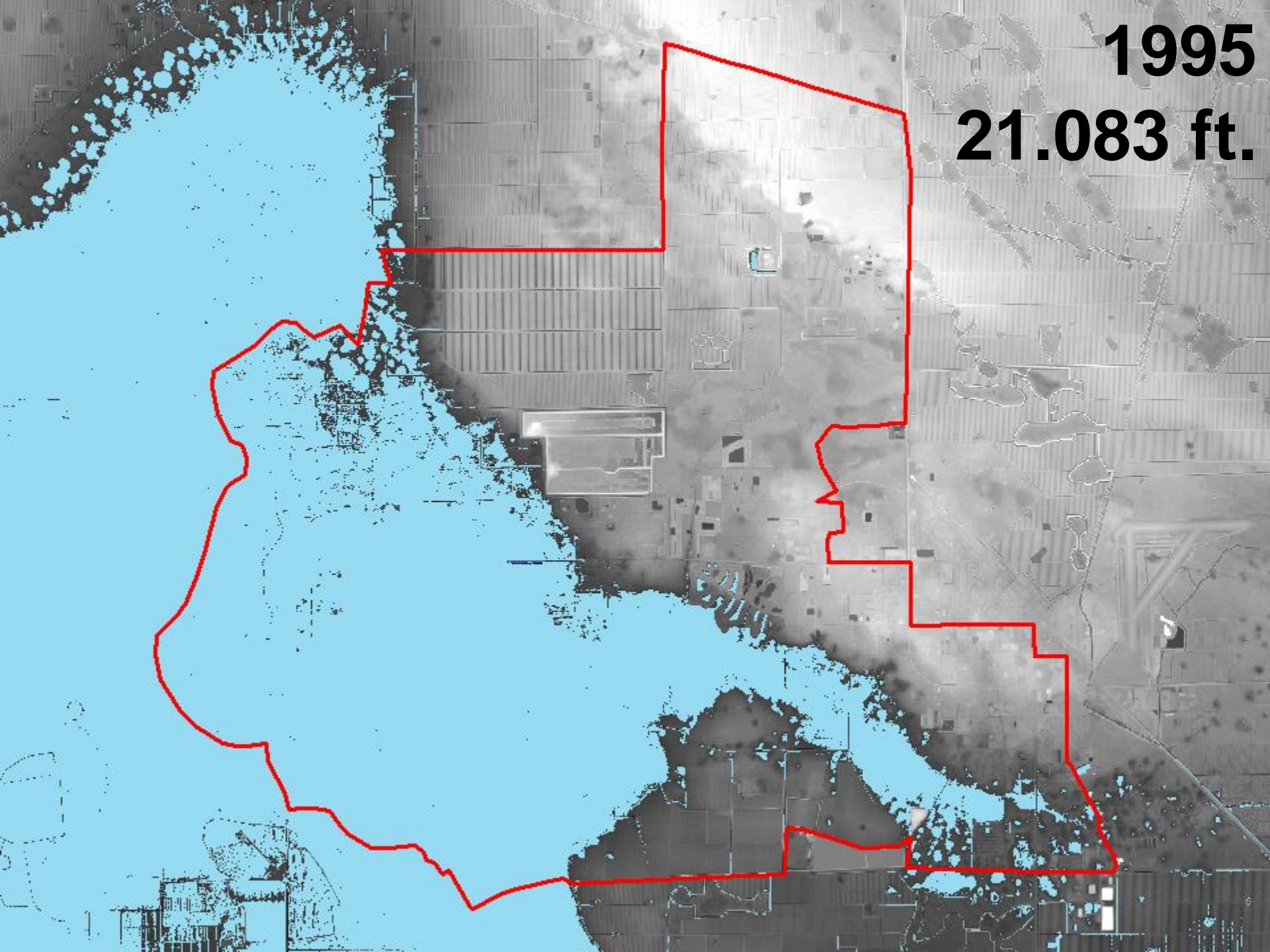
2012
15.823 ft.



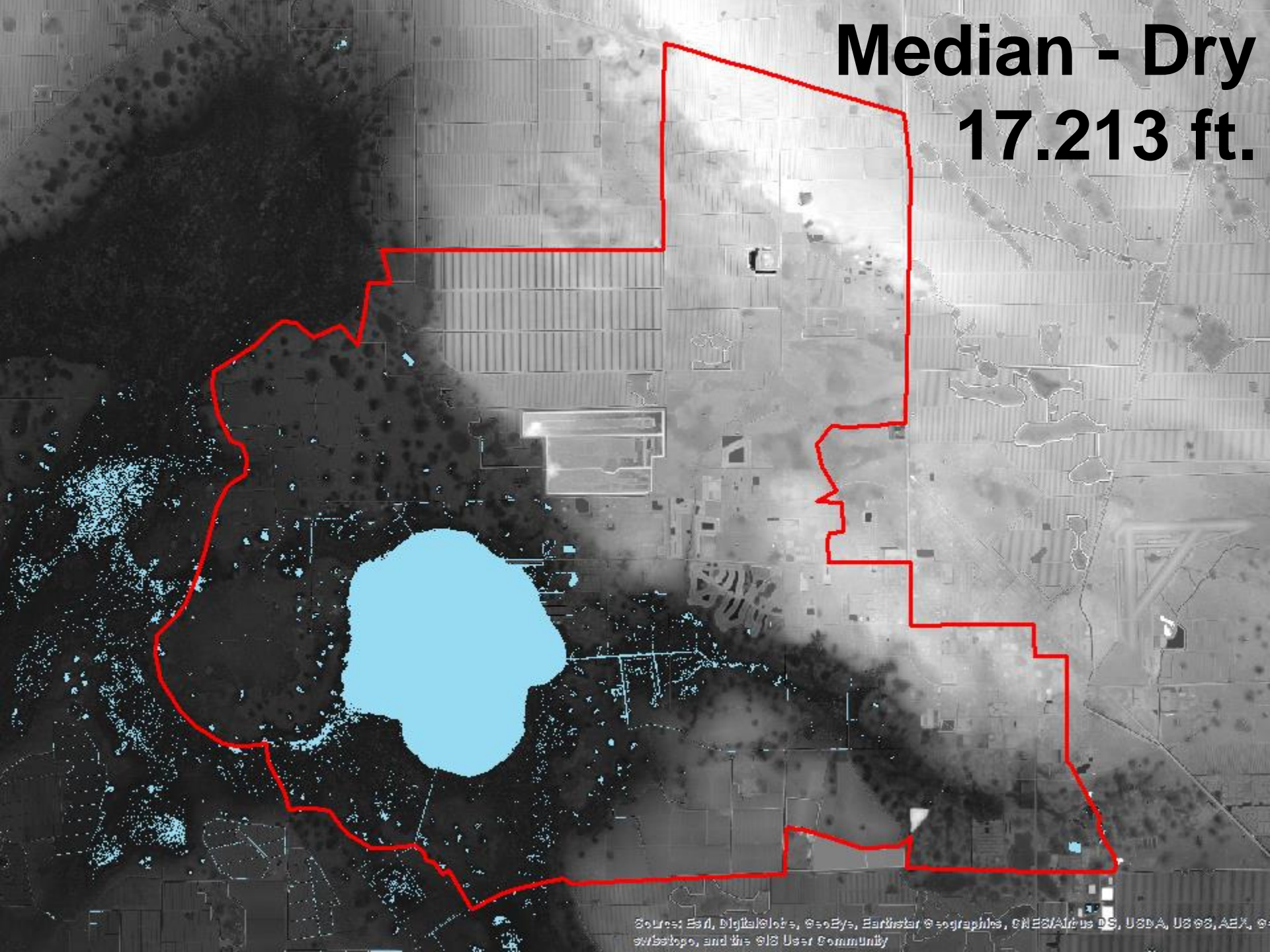
2005
20.433 ft.



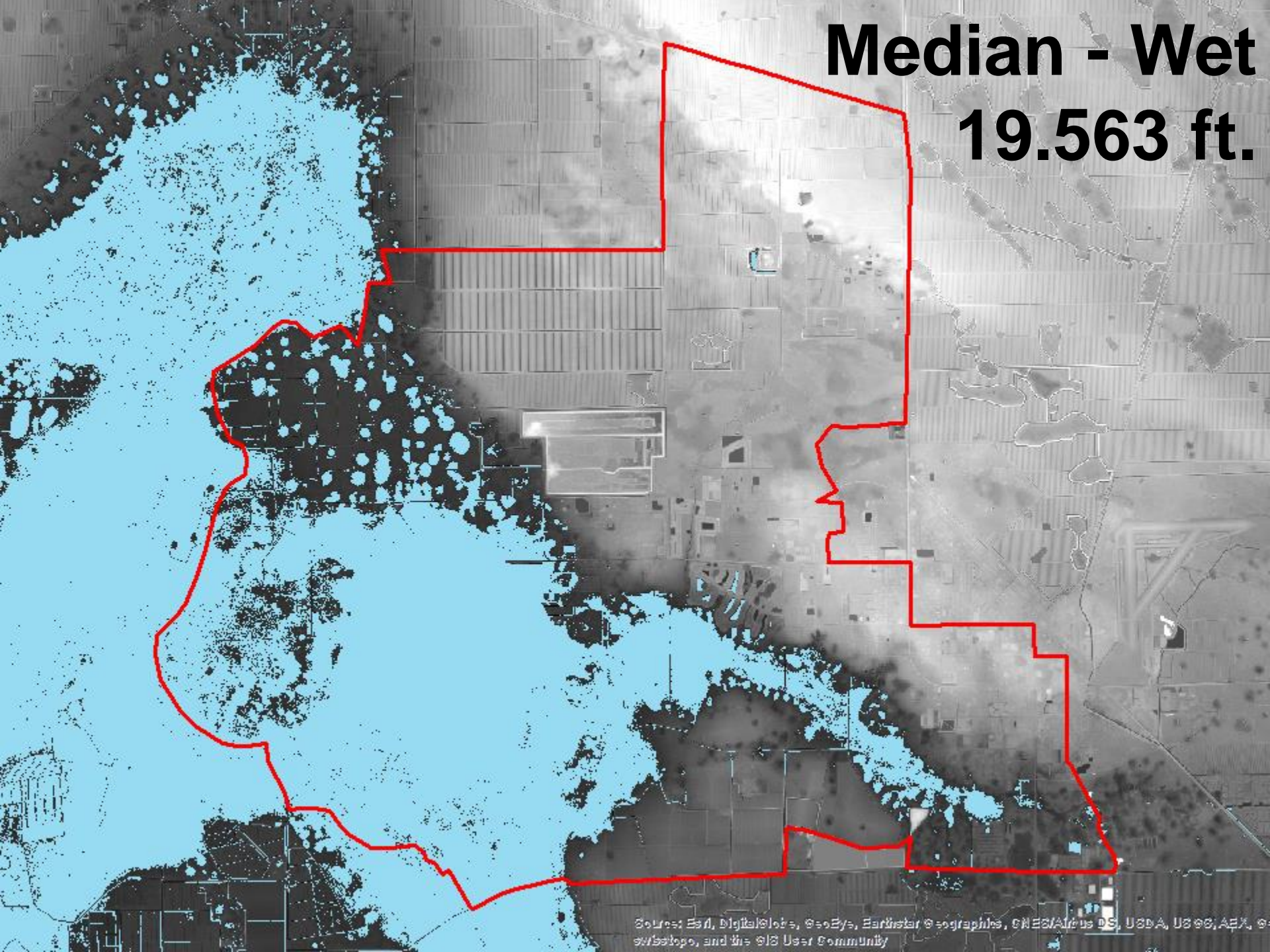
1995
21.083 ft.



Median - Dry
17.213 ft.



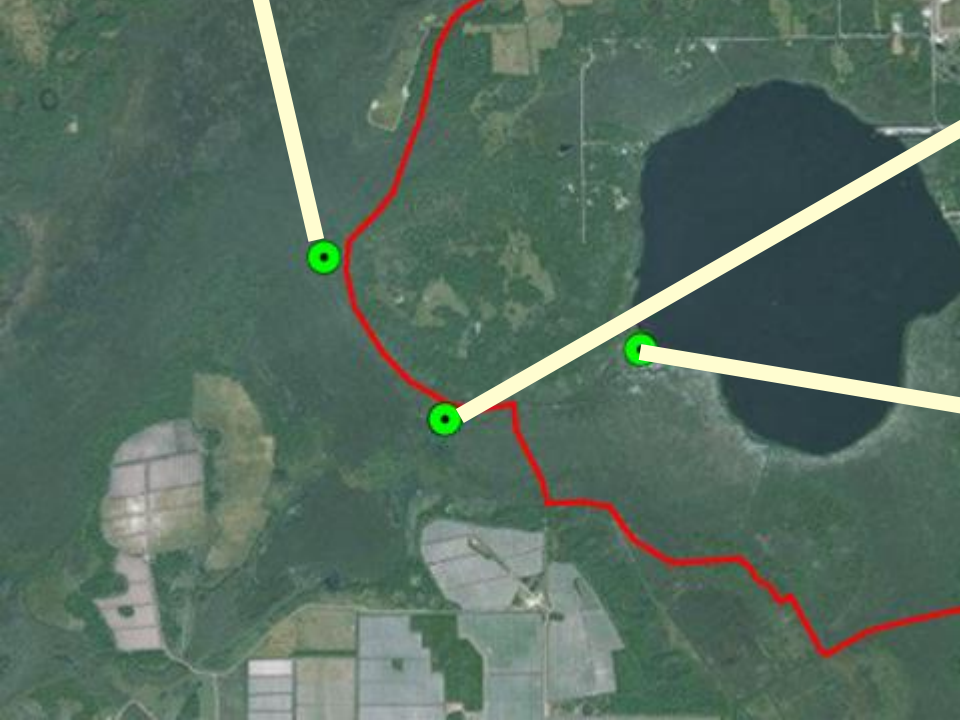
Median - Wet
19.563 ft.





**CREW
Marsh**

**Lake
Trafford**





Northern Boundary

~ 400 ac

~1,800 ac

Watershed ~ 20,000 ac

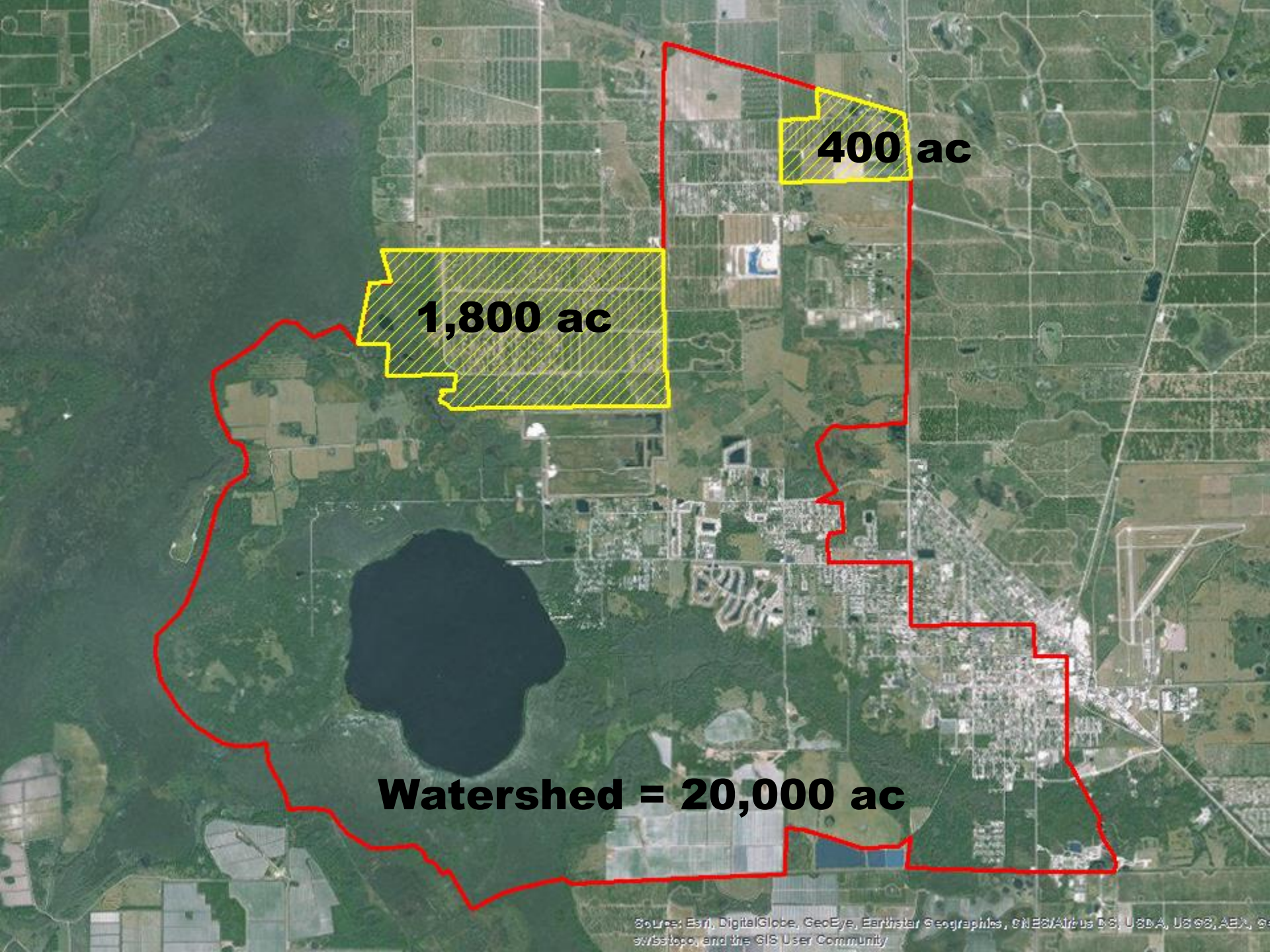
CREW

Two 20 ft weirs

A

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A

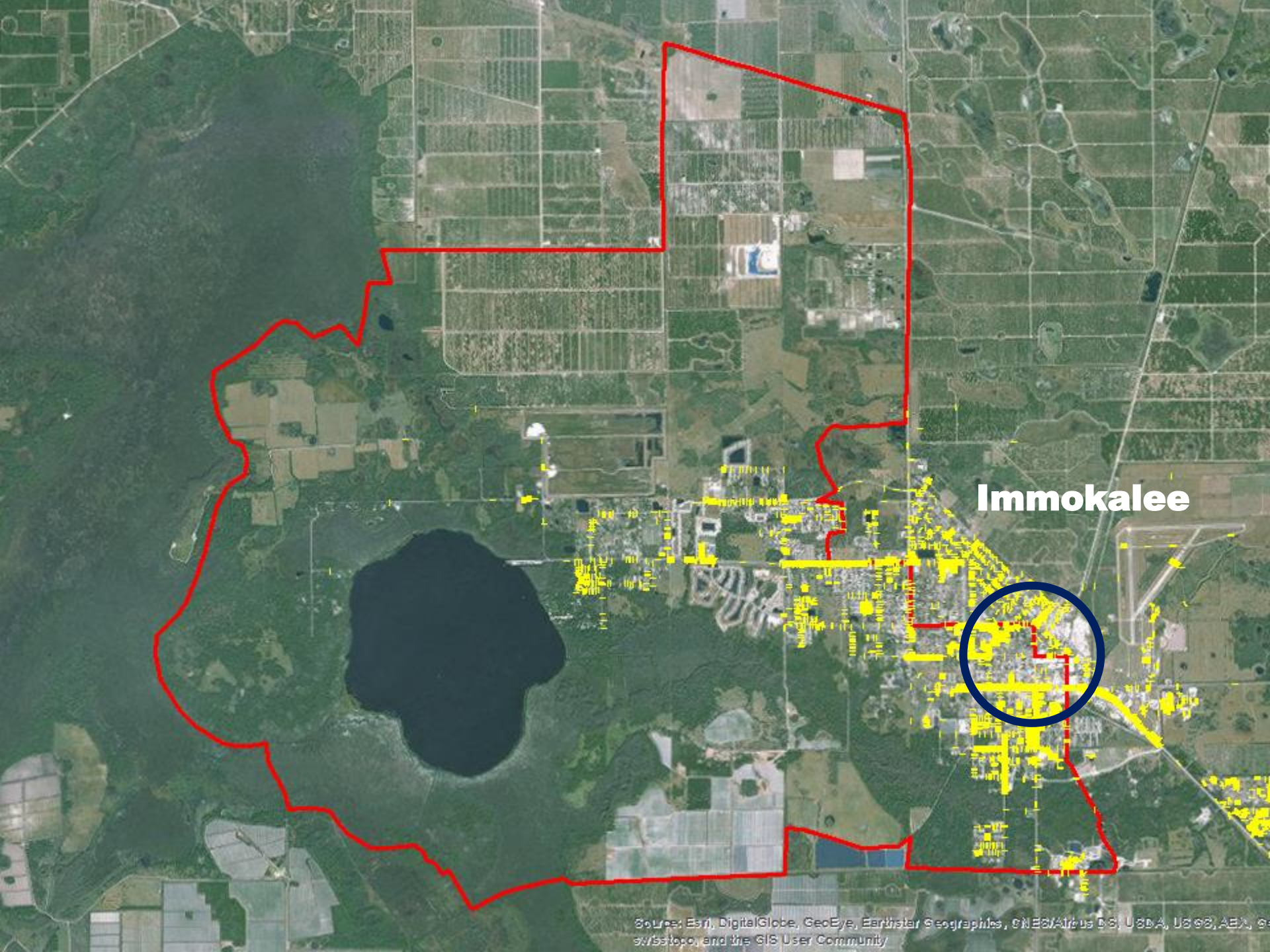


400 ac

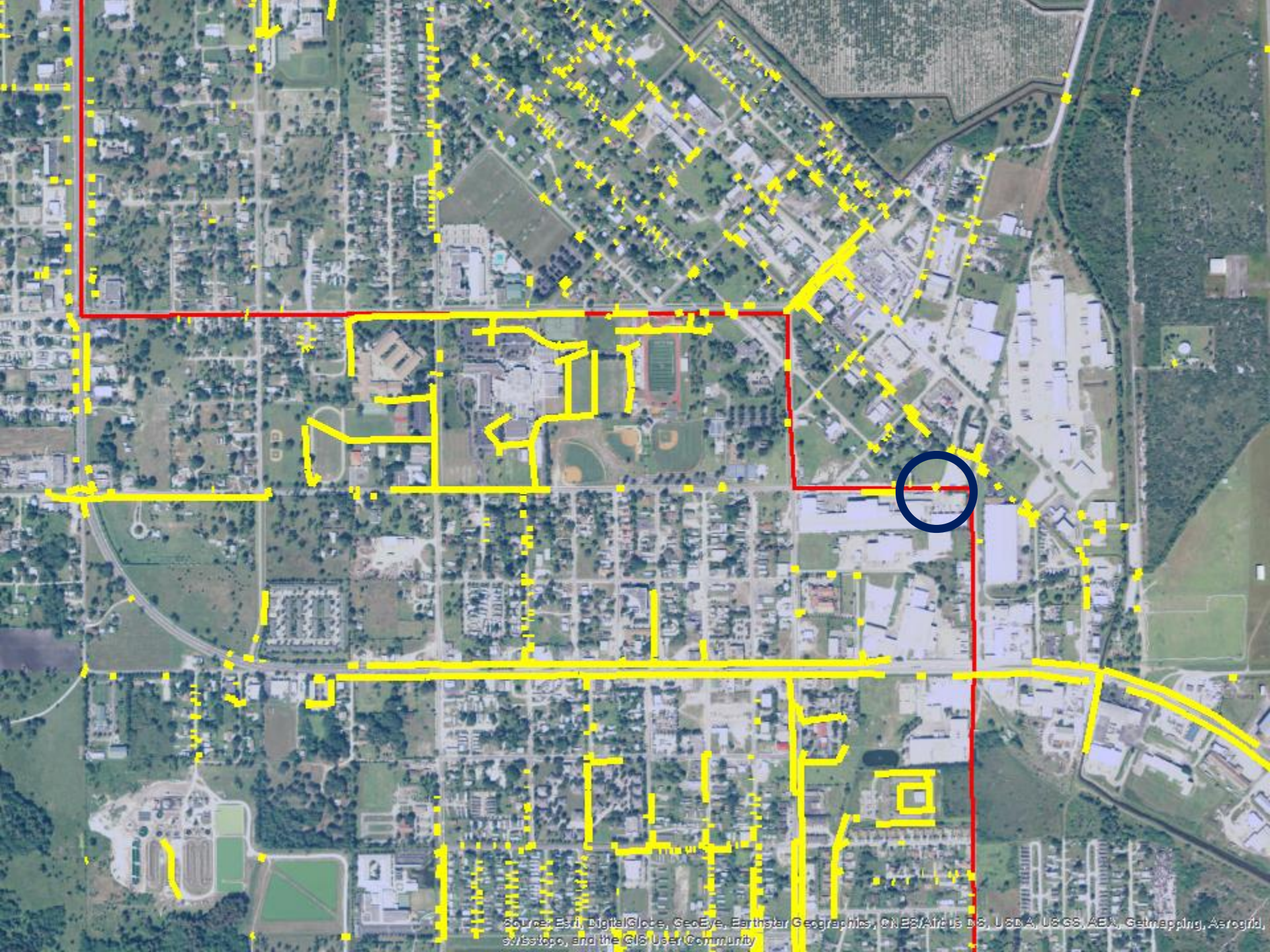
1,800 ac

Watershed = 20,000 ac

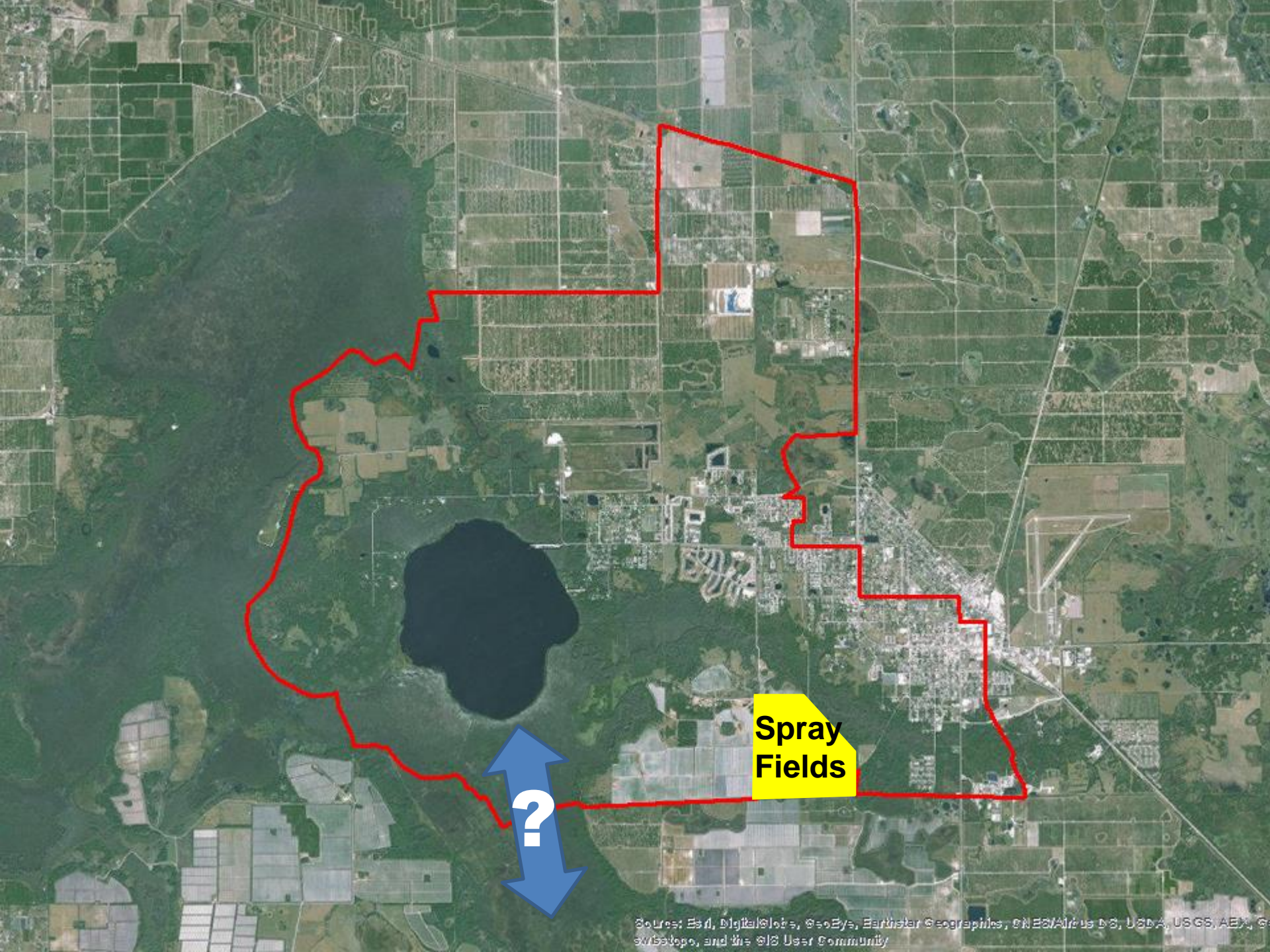




Immokalee

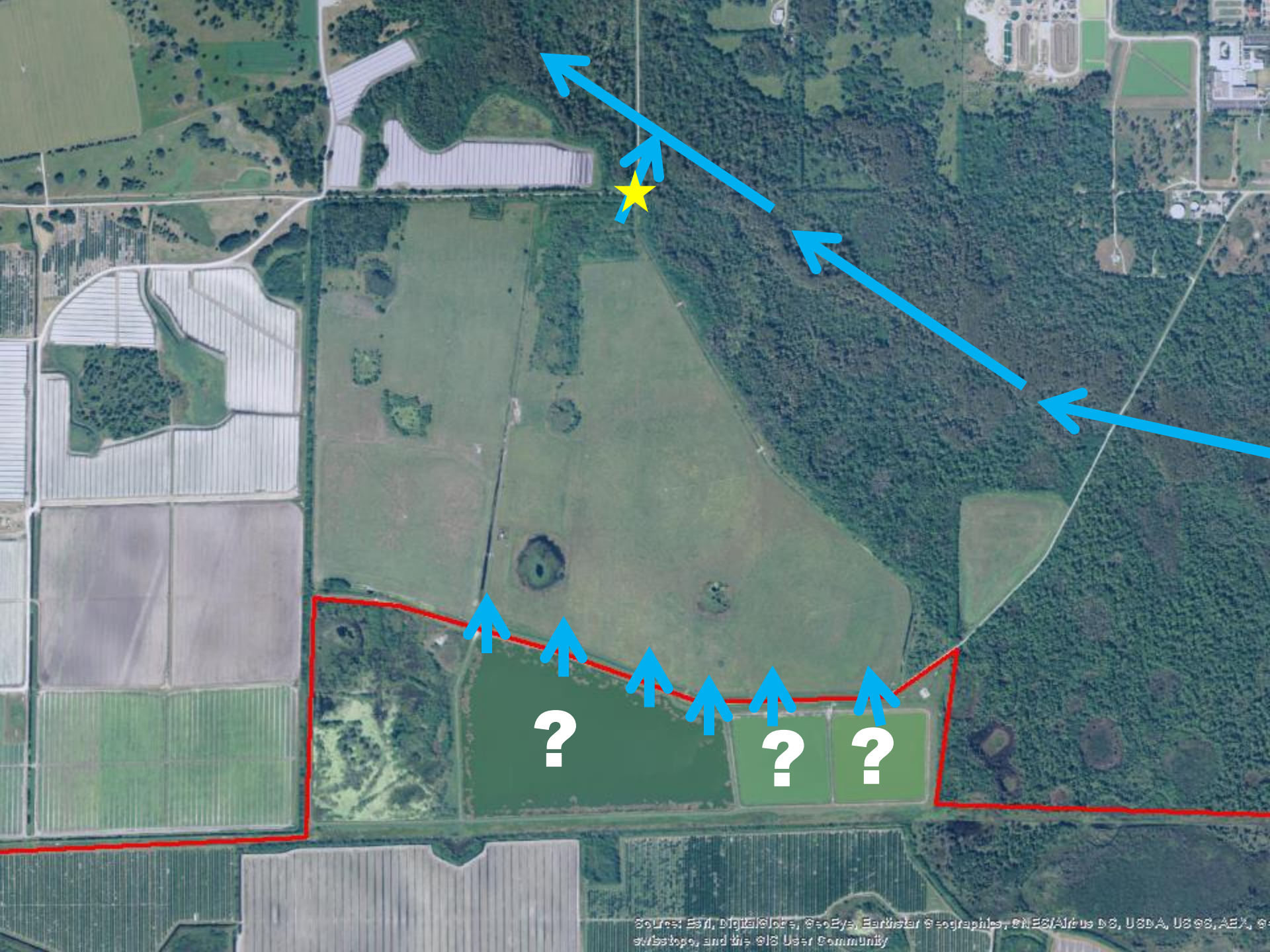






**Spray
Fields**

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Future Work

- Completion of monitoring system installation
- GeoNet topographic modeling
- Surface water level and flow measurements
- Topographic survey
- Flow pathways - urban area
- Hydrologic and topographic data analyses
- Boundary Verification – selected areas
- Revised watershed boundary